

PATENT CLAIMS

1. An arrangement for increasing the stress
5 resistance of implants arranged in an upper jaw
bone (1), characterized in that the implant has a
length (L) which requires that the implant must be
given access at parts (4, 4') to the sinus cavity
10 (5), in that the implant, at said parts, is
arranged with a convex or rounded front surface
(4, 4a) which, upon access, lifts the sinus mucous
membrane (6), without piercing the latter, and
15 thus forms a closed space (7) between the parts
(4, 4') and the underside of the mucous membrane,
and in that the implant is provided, at least at
said parts, with growth-stimulating substance(s)
(15) which interact with cell-containing body
20 fluid (8) which has penetrated or is penetrating
into the space, so that new bone (11) is formed
around said parts of the implant and thereby
increases the resistance.
2. The arrangement as claimed in patent claim 1,
25 characterized in that the convex or rounded front
surface (4) and at least one contiguous outer
surface (4') of the implant situated in the sinus
are coated with layers of growth-stimulating
substance or substances (15).
- 30 3. The arrangement as claimed in patent claim 2,
characterized in that at least sides of said
~~rounded front surface and contiguous outer surface~~
(4a) are arranged with rough outer layers or
porous outer oxide layer(s) (14) functioning as a
35 reservoir for said growth-stimulating substance or
substances.

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4. The arrangement as claimed in patent claim 1, 2 or 3, characterized in that the implant (3) is made of titanium and is coated with growth-stimulating substance or substances along most of its length (L).
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5. The arrangement as claimed in any of patent claims 1-4, characterized in that the growth-stimulating substance or substances are matrix molecules, growth factors and differentiation factors and/or peptides with growth-stimulating properties.
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6. The arrangement as claimed in any of patent claims 1-5, characterized in that the implant is arranged in an upper jaw bone with reduced height (L').
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7. The arrangement as claimed in any of patent claims 1-6, characterized in that, in an initial stage, the implant is provided at its outer parts with a mechanical anchoring member (12) which can be connected on or at the outer surface (1b) of the jaw bone.
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8. The arrangement as claimed in any of patent claims 1-7, characterized in that the implant can be given an anchoring which is dependent on the degree of insertion (L-L') of the implant in the sinus, where, the greater the degree of insertion, the greater the enclosed space (7) for body fluid and the interaction between the substance and the substances and the cells in the body fluid, which means ~~greater area of formation of new bone, and~~ vice versa.
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9. The arrangement as claimed in any of patent claims 1-8, characterized in that it comprises a member (20) which can be introduced into a jaw bone hole (2) extending from the outside (1b) of the jaw
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bone and opening into the sinus on the underside of the sinus mucous membrane (6), in that, in the inserted position below said underside, the member is also designed to effect a rotation movement as a function of a turning action (22), preferably of a manual type, and in that one or more front parts of the member are designed to pass in between the boundary wall of the sinus or jaw bone and the underside (6a) of the mucous membrane and, upon said rotation movement or rotation movements, to free or release the mucous membrane from the boundary wall.

10. An implant preferably made of titanium or ceramic, characterized in that it is arranged with a convex or rounded front surface (4) which is designed to cooperate with a sinus mucous membrane (6) in the sinus, via the underside (6a) of the mucous membrane, to form an enclosed space (7) between the implant and the underside of the mucous membrane, in that at least the front surface and the parts which penetrate or have penetrated into the sinus are coated with growth-stimulating substance or substances arranged to interact with cell-containing body fluid (8) in order to form new bone around the front surface (4) and the parts (4').

11. The implant as claimed in patent claim 10, characterized in that the sides of the front surface and said parts are designed with a ~~roughened outer surface (14) or porous outer oxide-layer~~ arranged to store said substance or substances.